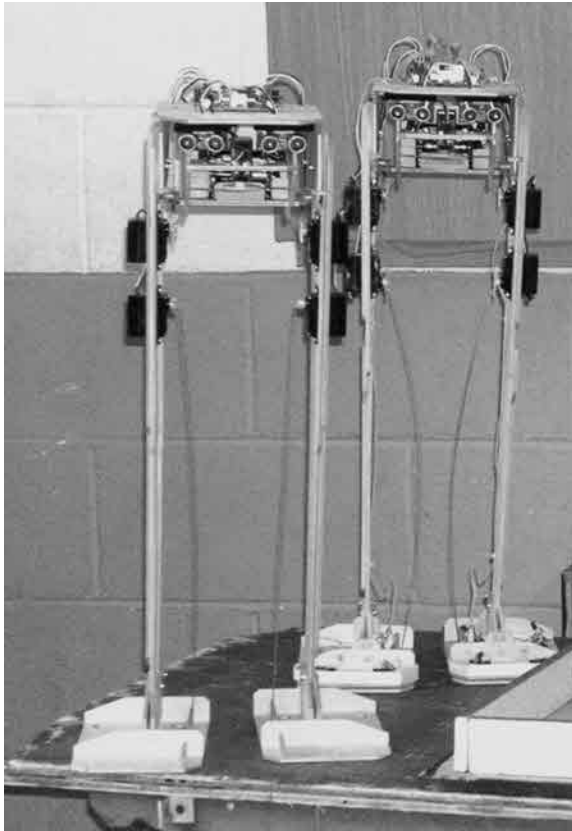# QUANTA

Visit the NEW Quanta Web Site at
⇨ **www.quanta.org.uk** ⇦

A pair of QL Controlled Robots at the Manchester Workshop and Quanta AGM - April 2008 (Full details inside this issue.)

Volume 25. Issue 2.
Apr/May 2008

Information on the Association

Membership of QUANTA, the independent QL user group, is by annual subscription. The Membership Secretary can supply full details. Copies of the association's constitution & annual accounts are available from the Secretary. There is an extensive software library. There are active national subgroups. Details are given in the Member's Guide and in this magazine.

QUANTA Committee - 2008/2009

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Quanta Magazine

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OBITUARY - VINCENT WRIGHT   Nigel C. Herring

It is with deep regret that we announce the death of Vincent (Vic) Wright in March 2008. Our thoughts and sympathy go out to his family.

Vic was a long time fan of Sinclair having a Spectrum with eight Microdrives all joined together (as he was fond of saying) and a couple of expanded QL's with disk drives. He took over the roll from Tom Mould (sub-librarian) in allowing us to hold the monthly meetings at his home. Although there never seemed to be much QL related talking!

Following on the tradition started with Tom any money raised will be given to the Hull Dove House Hospice. Many thanks to Rich Mellor of RWAP for the donation of £350 sent to Dove House and Dan Abbott for buying the 2 printers at the Manchester Workshop in April. The remaining non QL equipment will be donated directly to Dove House.

As a fitting tribute the complete set of Vic's Quanta magazines are to be scanned by Quanta creating an electronic archive for all members to access.

Vic will be greatly missed by all, including the members of the Quanta Hull Subgroup.

OBITUARY - HARRY DENNISON   John Gilpin

Regretfully we also announce the death of Harry Dennison, shortly before the Manchester Quanta Workshop in April 2008.

Harry was a long time member of QUANTA and the North East Manchester QL Users' Group (NEMQLUG) going back to the days when they used to meet in New Moston.

Although he had been unable to attend the Subgroup's meetings during recent months, his helpful manner and dry sense of humour will be greatly missed by the Subgroup members and our sympathy and thoughts go out to his family and friends at this time.

[QUANTA deeply regrets the passing of two more of it's members and offers their sympathy and support to all friends and families in any way they can. Obituaries and other notices of this type should be sent to:-
editor@quanta.org.uk

With full details and requested text layout etc.   Ed]

CHAIRMAN'S NOTES   John Mason

AGM and Workshop at Manchester

With an attendance in the upper twenties, and atmosphere akin to the early workshops I felt we had had a very good weekend. A big thank you to John and Sarah Gilpin for once more arranging the use of 3rd. Davyhulme Scout Headquarters. A big thank you to those who attended and especially to the 11 who made the effort and voted by proxy. See later for Sarah's full report.

QL-Today - Editorial

I notice in his Editorial in QL Today Volume 12 Issue 3, March-May 2008, that Geoff Wicks, once more, somewhat mischievously seeks to diminish Quanta completely oblivious that in so doing he diminishes himself and that when he served on Quanta Committee he too found that there was no magic wand which would cure all the ills which he or anybody else might perceive.

Remember - The Committee are all volunteers not paid employees!

Over the past four years they have done much to bring the Association back from the brink.

The magazine has been revitalised, and members have welcomed the option of receiving their copy electronically. This has been partly due to the willingness of the few to provide a good flow of articles and in particular to all the completely unseen work that John Gilpin has put in to change it from a less than mediocre production to a first class presentation.

Communications too have been sorted out. A new ISP found. The SPAM question addressed. After much searching a new Web Master, Dan Abbott, found and that which was a disaster area has been put once more on a sound footing. Yes there will be always more to do to it – pages are available for all Sub-Groups – what do you want to put on them?

Not over surprisingly the Traders have been finding the market diminishing for their wares. Some have even had to abandon trying to make a living out of the QL scene. Some continue to make their wares available only on personal basis.

One bright area is the partnership between Rich Mellor and Quanta which has enabled much second-user equipment to be refurbished and sold on to those seeking it with the bonus of some benefit to Quanta.

QL-Today Future

I see also on page 57 of the same issue that QL Today is experiencing some pains. I hope that they will overcome them. The QL scene would be a poorer place without them.

ASUS EEE PCs

At the turn of 2007 into 2008 I was delighted by the launch of Ass' EEE PC 701 – a Joseph's multi-colour mini laptop PC – in black or white or blue or red or green cases.

Priced from under £200 – 2Gb SSD (Solid State Hard Disk) to under £300 – 8 GB SSD, a 7 inch screen, very light weight, a Linux OS, and 3 No USB 2 ports – this last offering good peripheral expansion say including a 250 GB or larger portable hard disk. Also one can install XP with QPC if that is what you prefer.

However, since it has been rather difficult to find, it makes it seem like the early days of the QL all over again!

Now an EEE 900 with a 9 inch screen has just been added at under £400 with a 12Gb SSD.

I notice some subscribers to QL-User have been running UQLX on it and there is a suggestion that QPC can be adapted.

Is this the NEW QL for the Twenty-First Century?

[There are also views about the ASUS EEE Computer from other contributors later in this issue. Read on.....Ed]

EDITORIAL   John Gilpin

A t a Committee meeting following the AGM in Manchester Tony Hill was co-opted onto committee to take on the job of Magazine Editor.

This means that this will probably be my last QUANTA Magazine and I would like to wish Tony well as editor for the next series of magazines.

As would be fitting for my last issue, I was hoping that this would all go smoothly and that you would receive a publication of a standard that you have become used to getting. Unfortunately, things have not gone as well as I had hoped and as I settled down to complete this issue the weekend before my holiday in Norway, I realised that the half done section was nowhere to be fount on my hard drive - total deletion. I am currently sitting at the window of my cabin in mid Norway looking out at the rapidly melting snow and a clear blue sky trying hard to remember the pages that I had already completed. I must apologise to you all for the resulting delay in this issue and hope that the results will be worth waiting for.

I have thoroughly enjoyed editing your magazine for the past few years and look forward to seeing Tony's way of refreshing it with his personal style.

As a "swan-song" to my period of editorship I have agreed to help with the preparation of the new issue of the QUANTA Member's Guide which will include changes in the constitution which have been approved during the last couple of years and any other updates which are deemed necessary.

I also hope to be involved (indeed I have already made a start) in the preparation of putting the last 25 years of QUANTA Magazines into .PDF format on a CD (or probably more than one CD!) so that the content is made available to you all either as a nostalgic record of QUANTA days gone by or as a searchable record of all things QL. This would also be a fitting tribute to members past and present who have contributed to the vast amount of information that has been published in these pages.

My personal thanks go out to all of you who have contributed and helped me produce our Magazine and I hope that you will support Tony too.

The Annual General Meeting held on 15th April 2008 at Davyhulme, Manchester was remarkable for the speed with which it was run. There were 20 QUANTA members attending, a 25% increase over last year.

The meeting opened at 2.00 pm promptly and closed at 2.25 pm. All the reports had been printed in the Feb/March magazine and therefore no time was wasted reading them out. There were two additional comments added by the Treasurer, firstly that the deposit given by QUANTA to Shelton Printers had been refunded after the accounts were finalised, secondly that the loan made to Rich Mellor had been repaid in full on the due date. The Committee also thanked Rich Mellor for his efforts in selling second hand items for QUANTA at a profit, which had helped keep the annual losses to a minimum.

The nominations for committee were approved as the number of nominations did not exceed the number of Committee members required. John Mason welcomed Dilwyn Jones to the committee and thanked Dan Abbott for standing for a second year. Tony Hill's nomination was received after the closure date, so for this year he will be co-opted onto the committee.

The Special Resolutions put to the Annual General Meeting were both carried by a majority from the floor and the proxy votes. The Committee would like to thank all those who sent in their proxy votes (11 members).

It was a surprise to many (especially the Chairman, John Mason) when, after the meeting, Geoff Wicks praised the Chairman for a well run meeting, adding that he had always felt that John was an excellent Chairman.

It was announced that the Annual General Meeting for 2009 will be held on Sunday April 19th at a venue to be arranged.

NEXT QUANTA WORKSHOP   Sarah Gilpin

In what has become the traditional way of determining the location for QUANTA Workshops, the Committee invite applications to hold a QL Workshop in the Southern half of England (South of Birmingham) during September or October 2008.

If you or your Subgroup would like to arrange such an event, please contact Sarah Gilpin (secretary@quanta.org.uk) who will be pleased to provide you with full details and support.

Since these events take time to arrange and advertise, your earliest attention to this matter is requested.

THE $100 QLe   John Roberts

There are a number of exciting pieces of news coming together. I only ever forwent the QL for a PC in order to use email and a scanner. If only some bright genius could remedy the lack we might return to the QL instead of buying more and more complex machines that do fifty things when 45 would suffice.

The new $100 (or $200) PC looks promising. Even better is the thought of a $100 QL. Why? Not because it would be loaded with expensive gadgets of all sorts, only now can I afford such models. (I already have retained an old laptop with M/E because my scanner does not work with XP and Visioneer cannot supply drivers.) For quite different reasons, to whit - I am heartily tired of a laptop that struggles to let me start on anything for five minutes or more. If the machine is 'cleaned' or otherwise speeded up, this becomes only a temporary relief. Inexorably the delays mount up again. New programs, or new bugs and snarl-ups occur which bring back the delays.

I yearn for the days of a QL equipped with all the memory anyone could want, that after 30 seconds can present a screen ready to be used. Will the new Linux-run PC make that possible? How will the "web facilities" work? Will the seven/eleven inch screen enable transfer of its picture by cable to a larger screen with no fuss?

No doubt these and many other details will not become available until the production models are out and being used. But what has already been divulged is sufficient to make the prospect of these new developments extremely attractive.

SuperBASIC LOGIC   Steve Poole

In a recent QL Today I discussed the theoretical aspects of machine code logic. QL literature has not collated all aspects of QL Logic in one description, so I thought I would engage a general discussion of the topic. When you have read this article, please enter and study the listing code examples and their results carefully.

The QL does not use logic variables in the strict sense. That does not mean to say it does not use logic, as all transistors use logic gates to operate binary machine code. What it does mean is that the QL makes use of standard floating-point variables to decide if something is true or false. Any non-zero value is considered to be true, except by certain operations such as NOT, which just toggle between true and false. Yet all logical decisions are only returned as either 0 or 1, both integers, yet not treated as such.

One very important use of logic is in sorting. SuperBASIC can sort Float, integer% or string$ items using the magnitude operators <, <=, =, ==, <>, >=, >, where strings are sorted using the character codes representing their alphanumeric rank, treating embedded numbers distinctly. The operator '==' used with string$ does a case-independent comparison, whereas with numbers it considers numbers within 0.0000001 to be equal, except when comparing to zero, (which can never be 'true').

Decision-making can be programmed using the so-called logic operators. These operators work by comparing the four following binary combinations 0:0 0:1 1:0 1:1. From them, all possible logical decisions can be made. By substituting routines for their binary values, it is possible to construct such code as: If QL AND SuperBASIC: PRINT 'Lucky Programmer'. The logic operators 'NOT', 'AND', 'OR', 'XOR' have infinite combinations, so be sure to use brackets to make comparisons in the desired order, as such code as IF Rain And (Wind or Hail) THEN Dress_up is simple to understand. But, IF NOT rain OR (wind XOR NOT hail) may be clear to the QL but a human would find it very difficult THEN to predict the outcome!

From this example it can be seen that logic is essential to conditional statements. IF THEN ELSE END IF cannot operate without it! Remember, IF x is not at all the same as if x=1. Be careful to make clear logical simple choices in good time. For example. so=PI: IF so THEN do_it, etc.

But binary logic is not fool-proof. My modem got struck by lightning and destroyed. Imagine the server polling my computer: IF on_ THEN communicate: ELSE wait. This is clearly inadequate in this case, so use for example an alternative condition-test. broken=-1: state=broken: SELect state: =0: wait: =1:communicate: =REMAINDER: repair_PC.

'SELect ON' can be coded with 'GOTO line_num' or 'GOSUB line_num' following it on the same line, but as can be seen here, it is much better to use SuperBASIC Routines than raw Basic structures.

Logical expressions may also be used in programs. Consider for example the simple statement. ten=1&NOT(PI): PRINT ten. Such expressions can be as complicated as you like. Here, ten has become a pseudo-binary variable, best stored as ten\$=ten. By storing various pseudo-binary strings such as byte\$='01100110', you can conveniently keep track of all decisions made in a program as you go, each binary character representing a logical decision.

There is another, more complicated way of doing this: Bitwise operation. Here you use binary-powers added into an octet. $2^0=1$, $2^1=2$, $2^2=4$, $2^3=8$, $2^4=16$, $2^5=32$, $2^6=64$, $2^7=128$. So adding bit_1, bit_3 and bit_6 gives bit_power_values 1+8+64 = decimal '73' or 01010010 in binary. To extract information from the binary, the bitwise operators AND(&&), OR(!!), XOR(^^), NOT(~~) can be used to test individual bits for their state and modify them. (Unfortunately my keyboard has no bitwise 'OR' symbol : CHR\$(124), so I used exclamation marks for this article).

Experiment by modifying the listing to get used to the results of these bitwise operators. You can test an octet 'x' for an individual bit using the power values as follows: bit_1==(1&&x)=1 or bit_3=(8&&x)=8 etc. The advantage of bitwise operation is that it uses eight times less memory than pseudo-binary strings. The latter are, however, easier to code and manipulate using simple string indexing.

Finally precedence: The interpreter uses the following priority when evaluating logic expressions: Parentheses, Unary plus or minus, concatenation, INSTRing, exponents or powers or LOG(), * or / or MOD or DIV, + or -, NOT, AND, OR or XOR, (evaluating from left to right when they are of equal rank). So remember the golden rule: always break down your code into mind-size statements, and use parentheses if you are not sure...

If you dabble in Artificial Intelligence 'Expert Systems' you will certainly make very heavy use of Logical operations. But why not brush up on the

theory and try to use it a little more in your own programs too? It can sometimes neatly solve very complex problems in just a few statements.

Now that you know everything about SuperBASIC logic, why not try to write your own machine-code program? Imagine window#1,256,256,0,0. A Pixel can be defined in two bytes for its across and down coordinates. Use blocks for a point rather than directly POKEing the screen (to be compatible with QPC). Write basic binary logic-gates with random up,down,left & right to move a point randomly around the screen until it crashes into a side. Design the logic circuits in the form of routines. Build the routines up into a complete program operating on but ones and zeros. Store and manipulate all the data in the two characters using bitwise operators, or in word$(16) using pseudo_binary strings. As you can see, you can become a pioneer of computer hardware and language design, thanks to your new-found skills in machine logic!

SuperBASIC is a logical language because of the way it was designed in the form of structured procedures fed by expressions evolving around a name table. As you write your program you can pepper it with descriptive REMarks to help you maintain your train of thought. Afterwards, you can eliminate a lot of the remarks by using meaningful names in place of the shorthand expressions you generally adopt initially.

How lucky the QL Community is!

Best Wishes,

PS: Bruno Coativy found a bug whilst beta-testing the code. Do not attempt to EXEC the listing under SMSQ, (just RUN it), as no CON_sole device is declared at the start of the code. This is so as to maximise PRINTing space down the page.

```
100  WINDOW  256,206,256,0:  WINDOW#2,512,206,0,0:  CLS#2:  x=10:
OVER#2,1: LIST TO 290
110 AT 1,x: PRINT 1 AND PI
120 AT 2,x: PRINT 1 < 2
130 AT 3,x: PRINT NOT PI
140 AT 4,x: PRINT NOT 0
150 AT 5,x: IF 1 : PRINT 0: REMark Illogical!
160 AT 6,x: s=2: SELect s=0,1: =REMAINDER : PRINT '!'
170 AT 7,x: IF 1 AND 1: PRINT 'AND'
180 AT 8,x: IF 1 OR 0 : PRINT 'OR'
190 AT 9,x: IF NOT((NOT 1) AND (NOT 1)): PRINT 'XOR'
```

```
200 AT 10,x: IF 1=='1.0000001': PRINT '=='
210 AT 11,x: IF 1=='1.00000001': PRINT '<>'
220 AT 12,x: PRINT 1&&3: REMark AND
230 AT 13,x: PRINT '1'&CHR$(124)&CHR$(124)&'0':REMark     OR
240 AT 14,x: PRINT 1^^0: REMark XOR
250 AT 15,x: PRINT 'AND: 11'
260 AT 16,x: PRINT 'OR: 01, 10, 11'
270 AT 17,x: PRINT 'XOR: 01, 10'
280 AT 18,x: PRINT 'NOT: when x><0:x=0, when x=0:x=1'
290 AT 19,x: PRINT 0=='.0000001': REMark Beware!
```

QUANTA NEWS   Dilwyn Jones

NEWS EDITOR

At this year's Quanta AGM, I was voted onto the committee and have been asked to be News Editor. Accordingly, if you have any QL-related news you would like to see included in the magazine (and any future news function which may appear on the Quanta web site), please send them to me at my normal email address dilwyn@uk6.net or send them direct to the editor's address editor@quanta.org.uk

Thank you,

Dilwyn Jones

[Welcome to Committee, Dilwyn. You will shortly be able to be reached at a new dedicated email address: news@quanta.org.uk - Ed]

I've done quite a few updates to my web site tonight, including an attempt to restore the Message Form page, which got removed following hijacking by hackers last year. It may be more secure now, only time will tell, I'll give it a little test period to see if it behaves.

More importantly, there's some updates to the Turbo programs page to bring it up to date with revisions received from George Gwilt at the Quanta AGM on Sunday.
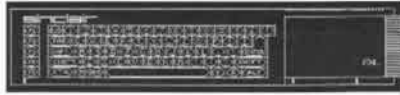
Full details of the site updates on the Site History page.

www.dilwyn.uk6.net/index.html

NEXT QUANTA SPONSORED EVENT

**QUANTA invites members and/or Subgroups
to apply to organise a QL Autumn Workshop
in the Southern half of England
for September/October 2008**

All enquiries to Sarah Gilpin

secretary@quanta.org.uk

SDUMP MANAGER   Dilwyn Jones

This is a new pointer driven screen capture program plus an interface to act as a front end for the SDUMP screen dump extensions built into some disk interfaces and supplied as an extensions file with SMSQ/E, although current versions of SDUMP only work in mode 4 and mode 8.

Capture or print all or part of a screen. Screen capture works in all modes and can save to screen files, Pic files, Psa files, 24-bit BMP files (for transfer to a PC) and mode 4 Page Designer 2 page files.

The program can be downloaded from

www.dilwyn.uk6.net/graphics/index.html
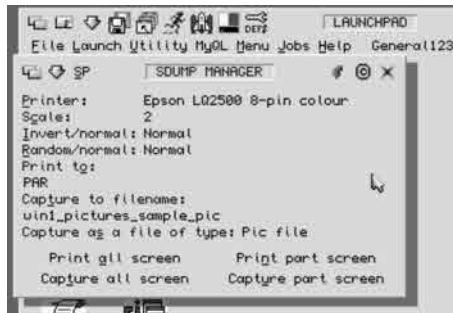
Update for QCoCo to version 1.60   Bob Spelten

To make it more usable on Aurora, I changed the background images. They are no longer taken from _bmp files but are now loaded from big sprite files. Consequently the "qlborder" image is now also a sprite and part of the program code, so it doesn't need to be loaded from the root anymore.

When changing item attributes, the current item number and the colour number are shown in the selection menu.

The Favourite colours can now be loaded and saved from the selection menu, therefore a new extension is preferred: "_mfc".

Colours can be selected from Favourites as before but now also from the QL colours, the PAL colours, the System colours (which are the actual colours in the current theme), the Grey shades and even PAL stipples can be made. With the '<' or '>' buttons you can scroll through all the colours.

New colours selected for an item will be added to the System colours and can thus quickly be picked from there for other items. If on reflection a colour change wasn't the right one, you can always pick the old colour back again from the System colours.

"Load theme" can now read the colours from any of the 4 system palettes while "Apply" can save the current theme to any of the 4 system palettes. Doing a "Load theme" or "Apply" will also change the system palette the program is using itself. A new "Reset" button will undo all changes since the last save or load and redraw the main window.

Minor bugs have been fixed and the menus have been updated in EasyPtr4.

All menus have an OK option to confirm the colour changes. Escape will undo the most recent changes for that menu and all menus have an escape option.

All 57 system items can now be changed individually. Hitting the space above the Title item will list them all.

When you Hit the QCoCo name in the Info menu, more program info is available and you can change the background colour or skin sprite or override some configured defaults. 5 more defaults can be set with (Menu)Config.

Some Menu_rext menu calls can already use the new 'timeout' options of version 7.67 (still under construction).

Sprite-View and Menu-View updated to version 1.01

Some error trapping has been added so they don't crash anymore if the sprite or menu is too big.

Sprite-View has a scaleable window and can now show sprites almost as big as your screen. Small sprites will be shown as pointer sprites as before, while big sprites fill the View window which also has a Move item and shows the spritename.

Hitting F3 in the Menu-View window will write the current menu statistics to a file in ram1, any other key will quit.

When you execute these programs without a command string, they will open a file select window and each time you click on the window a new filename can be selected. But you can also configure FileInfo2 to call them on the _spr or _men extension as before. Then a click on the window will quit the job.

Bob Spelten Jr; 22.04.08

QL Spanish Resource Site Links

Javier Guerra (aka badaman)

Hi,

I send you the correct Sinclair QL Spanish resources links:

http://sinclairql.es
for the Spanish QL resources site

http://www.speccy.org/foro/viewforum.php?f=15
for the new Spanish Qforum

http://badared.com/badaman/QL/index.htm
For my personal QL repository.

Regards, Javier.

QDOS INTERNALS

Norman Dunbar wrote on the mailing list about his QL web site. This is a slightly condensed copy of his message:

"The web site formerly known as 'Qdos Internals' has been off line for some time but now it is back again!

I've created a Wiki on my sub-domain and I'm in the process of converting my old HTML pages into a Wiki format. Once I'm done with the conversion, I'll be opening the Wiki up to all and sundry (well, to subscribers only) so that we can collectively create the definitive online QDOS SMSQ/E repository of knowledge! (or something like that anyway).

The web site is www.qdosmsq.dunbar-it.co.uk - remember it is under construction (at the time of writing, March 2008) but I find a Wiki easier to create and change as I'm behind a huge firewall at work, so lunch time updates as in the past, are no longer possible as FTP etc is restricted.

Maybe one day I'll actually finish it!"

PCB CAD 6.42 UPDATE

Malcolm Lear has released version 6.42 of his PCB Cad program. It is now available from the Graphics Programs page on Dilwyn Jones's web site.

www.dilwyn.uk6.net/graphics/index.html

Here is a list of changes in recent versions, copied from the revisions.txt file in the package:

Proper exit for area layer exchange.
Fixed memory leak at base of artfile.
Library mode now has flag.
Edit layer exchange on mirroring only works on library components.
Pin count for schematic pins now determined by pad size. Old method still supported.
Schematic libraries changed to new schematic pin count and track size changed from 0 to 1.

WEB SITE UPDATES   Dan Abbott

OPD update :

All I have to report is that I have updated the OPD home page, added a section for ongoing hardware projects and put last issue's OPD article online:

http://www.quanta.org.uk/systems/opd/index.asp
http://www.quanta.org.uk/systems/opd/projects.asp
http://www.quanta.org.uk/systems/opd/news.asp

Photos and video from the 2008 AGM :

I have a few photos and video clips of David Buckley's robots which I will eventually put on the web site.

Content Management Systems :

We are currently looking at two rival content management systems which would allow us to provide a members area and a discussion forum ... watch this space.

MEMBERSHIP CHANGES   John Gilpin

I am pleased to report that at the AGM in April, Rich Mellor offered to provide a scheme to his considerable customer base whereby RWAP customers who are not current members of QUANTA or former members who resigned, for whatever reason, more than a year ago, will be able to purchase membership at a reduced price for the first year.

Most QUANTA Members are aware that Rich has been supporting QUANTA for some years now by marketing, on our behalf, all forms of second user computer parts which we have been donated and this has resulted in about £2,000 of donated income being raised over the last three years.

What QUANTA should do with its "Accumulated Fund" has been a topic of conversation by both members and non-members over the years, and this scheme aims to increase QUANTA's membership numbers without reducing its monetary income. Indeed, QUANTA will be receiving £7.00 a head from these new members during their first year of membership. The only restriction of this scheme is that these new members will receive their Bi-monthly Magazines by email as a .PDF file. This method of distribution has been tried and tested over the past couple of years and has received great acclaim from those who opted to take their magazines this way. It has also been shown that this method of distribution reduces both our printing and postage costs considerably. The resulting "shortfall" in income will be offset by the donated funds from Rich's continuing sales on behalf of QUANTA. This means that QUANTA will not receive any less money as a result of this scheme, it will be just a matter of posting some of it to the membership ledger instead of the donations one.

As Treasurer, I have been requested to monitor this scheme carefully and be able to report on it's merits or otherwise when asked so to do.

Now that we have the required skills to be able to use our web site to the full, we are looking to provide a facility whereby all members will be able to pay their membership renewals on line using a PayPal Account. Arrangements to make these facilities available are now well in hand and we hope to be able to bring you all the details to enable you (especially the Overseas members) to use them in the near future. Comments on these or any other new ideas should be forwarded to:

secretary@quanta.org.uk

TRADER'S CORNER

QUANTA recommends the following trading members to supply all your QL requirements, information and advice.

Trader's Advertisements can be viewed at:
http://www.quanta.org.uk/traders

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RWAP Software provide a wide range of software and hardware for the Sinclair QL, Cambridge Z88 and ZX Spectrum computers.

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Other software
Q_Route - the famous route finder software for the QL. & QL Genealogist and Genealogy for windows.

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QLToday

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The Magazine about QL, QDOS, Sinclair Computers, SMSQ.....

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Comments have been made elsewhere regarding the weather (wet, as so often in Manchester), but there were "no wrecks and nobody drownded" to quote Stanley Holloway. Adverse conditions did not stop people from attending or from travelling some distance. 28 attended on Saturday and 22 on Sunday. There were 20 QUANTA members who attended the Annual General Meeting, a marked increase over recent years.

NEMQLUG members John Southern and Chris Grogan busied themselves testing and repairing basic QL's with a limited amount of success (they ran out of working keyboard membranes). Dave Buckley had brought along his menagerie of robots and set 'the Legs' free to roam the room. These 'Legs' have sensors to enable them to avoid obstacles and wandered around both static and mobile impedimenta, to everyone's amusement.

Chris Grogan [L] & John Southern [R] performing a heart transplant on another QL

Derek Stuart discusses the merits of the Q60 to keen Qlers - JM prefers his laptop!

Rich Mellor of RWAP made a welcome return to the workshop and together with Dilwyn Jones, Geoff Wicks and Derek Stewart, represented the Traders. We were sorry not to have the other traders there, but unfortunately distance and other commitments prevented them from coming. George Gwilt and Dilwyn Jones were invited to speak on Saturday and Dave Buckley on Sunday. George gave an interesting and stimulating talk on Cptr, the alternative to Easy Pointer, which led into some of the other software programming he is currently involved in. Dilwyn talked about the QL on a stick for those who had not been at Solihull for the last QUANTA workshop.

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Dave Buckley agreed to talk about his robotics and the QL "for just 20 minutes" on Sunday. I don't know what clock he was using but no one emerged from the room for over an hour. His first robots (in the 1980's) used turtle graphics and were linked to and controlled by a QL.

I would like to thank Alison Southern for her help with the refreshments, and her daughter Andrea ably supported by a number of other volunteers who helped wash up over the 2 days.

Saturday evening was the Chinese banquet (for the third time during a Manchester QL Workshop) which had been arranged as usual at The Pond Quay. Our hostess Veronica has widened the options for non meat eaters and the restaurant is listed on the celiac web site. Rich Mellor said it was the first Chinese dinner he had been able to eat in a long time. We had a wonderful social evening, with only a few minor mishaps (Our one vegetarian was given the celiac spring rolls) but all was sorted out in the end. Geoff Wicks wore his napkin as an apron as usual, but did remove it before he left. The after dinner conversation was so interesting that the staff started to close up shop around us – a subtle hint for us to break up the party.

Everyone who attended the workshop on Sunday, stayed for the AGM, which was held in the main hall. The Chairman took firm control of the meeting and all the business was completed in 25 minutes. Immediately afterwards, the gathering broke up as George Gwilt was heading back to Scotland and John Mason was travelling in the opposite direction to the South coast.

After the party's over.......
Check the serviettes and broken glasses!!
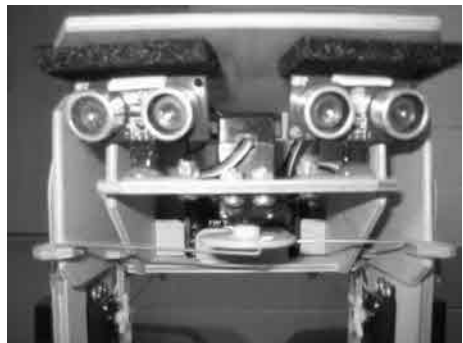
Nothing escapes the AGM Scrutineer!!
No vote rigging.

The comments overheard and received through the ether were very positive. A number of people stayed at a small hotel, a few doors down from our house, and found it very agreeable, much friendlier than the usual Travel Lodge type hotel.

Committee looks forward to an even better turn out next year when we hope to return to the Midlands for the celebration of 25 years of QUANTA and QLing.

HELPLINE   Dilwyn Jones

[Another of Dilwyn's ideas to pass on information to members is to introduce the following Q & A (or FAQ) session. Thanks Dilwyn.   Ed]

FULL SCREEN

Q. I would like my BASIC program to start up filling the screen, no matter what type of system it runs on. How can I achieve this?

A. SBASIC has two functions, SCR_XLIM and SCR_YLIM which will tell us the maximum width and height of the screen. Unfortunately, SuperBASIC has no such functions, but as QDOS cannot cope with anything other than 512x256 screens (with the possible exception of uQLx emulator). The simplest solution is for your programs to assume a 512x256 screen, then if running on SBASIC to call SCR_XLIM and SCR_YLIM

```
100 wide% = 512 : REMark screen width
110 high% = 256 : REMark screen height
120 IF VER$ = 'HBA' THEN wide% = SCR_XLIM : high% = SCR_YLIM
130 WINDOW wide%,high%,0,0
```

This will work if QLiberator compiled, though Turbo may have a problem as it checks to see if all keywords required are loaded as the task starts.

Some toolkits such as the QL Today Display-Code extensions have keywords for checking the screen sizes. These can be included free of charge in any compiled programs, although the above solution is probably the simplest for an interpreted BASIC program.

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Q. How do I include extensions in a compiled program?

A. The method varies for Turbo and QLiberator compiled programs, although the principles involved are the same. QLiberator users should study the details of the $$asmb directive in the manual. Basically, the directive is placed in a REMark statement near the beginning of the program, along with filename of the extensions file, an offset value to a setup routine and an initialisation routine, the difference being that the first value is a setup routine (e.g. allocate working space, or set up a Thing) while the second value links the new keywords to S(uper)BASIC. Take as an example the QLiberator extensions file itself, called QLIB_EXT. We specify its filename and a pair of values like this. It has no setup routine, like many common extensions) and the table of new keywords starts 12 bytes into the file:

120 REMark $$asmb=win1_qlib_ext,0,12

The filename may be case sensitive in some versions of QLiberator.

The Turbo equivalent (in more recent versions of Turbo only) is also specified by a directive in a REMark statement near the start of a program:

120 REMark %%win1_qlib_ext,0,12

By and large extensions files will ave details of how to include them in a compiled program in their documentation. If not, you need to look at the assembler source to work out where the definition table lies. Most extensions have a few machine code instructions before the table to link in the extensions before the table of keywords, so a very broad rule of thumb is to try a value of 10 or 12 for the last number, and a value of 0 for the first one.

Not all extensions files are suitable for inclusion - some are best loaded from a boot program. Note also that as QLiberator generates mostly ROMable code, some extensions contain data or storage areas within the body of the extensions file. If one of these extensions modifies any part of its own area, the code generated will no longer be ROMable.

Q. I'm thinking of buying QPC. Can you tell me how much memory it can handle? I have a Super Gold Card at the moment and would be very happy if QPC could provide me with at least as much memory to run a fairly large program I use.

A. Good news - QPC2 can handle up to 128MB of memory, although if the PC does not have this much available RAM, QPC2 will try to use "virtual memory" whereby Windows will allocate disk space larger than RAM and swap the content of disk and memory as required from time to time so that QPC2 thinks it's running in that amount of memory, although the disk activity can slow things down a little. The good news, however, is that QL software does not usually need anywhere near this much memory. Most QPC users allocate anything from 2MB to 16MB and usually find that this is more than enough for a QL system.

Q. I am hoping to use a program of yours which states it needs "Window Manager 2". Does this mean that it needs SMSQ/E and colour drivers? I have a Super Gold Card QL with a version JS ROM and I do normally use pointer environment.

A. Not necessarily. Most programs which state that they need Window Manager 2 can work on traditional QDOS systems as long as you have pointer environment version 2.00 or later installed. Window Manager 2 is not the same thing as a colours drivers system, since Window Manager 2 can work even in good old mode 4, although not as colourfully of course. Most programs will tell you if they need to run on a high colour system.

Q. Which systems can give me more colours than a QL?

A. These are generally systems which run SMSQ/E, since QDOS does not provide facilities for handling the new colours. There are a few programs around which can run in 256 colours on an Aurora in QDOS by directly manipulating the hardware and screen, but these are very much in a minority. To the best of my knowledge, the following systems can offer more colours than a standard QL:

1. QPC2 (Windows) - 16-bit or 8-bit colour modes
2. Q40 or Q60 - 16-bit colour modes.
3. Aurora card - 8-bit colour mode. Also has a 4-bit colour mode, but this is not supported by SMSQ/E currently.

4. QXL card for PC - 16-bit colour modes.

5. QemuLator - has a mode which can run the 8-bit colour mode by using the Aurora "colour drivers" version of SMSQ/E

If anyone knows of other platforms I have not listed here, I will gladly update this list. DJ.

PACMAN   Steve Poole

D avid Denham expressed the wish to see a pacman game for the QL. No doubt old commercial ones exist, but I have never seen any pacman code published in QL literature. In my present state of rediscovery of classic computer games, I decided to write a pacman for the magazine, especially so young programmers may examine the workings of it.

The program took me about three hours to write and then eleven hours to finalise, coding the movement of the zombies proving to be less straightforward than I imagined. After spending about two hours constructing contrived GOTO blocks, I got confused with scrolling code onto the listing screen and did the necessary thing of printing it out onto paper. To do this, I took a tip from John Gilpin and SAVEd the actual state of the code to an MSDOS formatted floppy-disk under the name of pacman.RTF . Then all I had to do was to load it into WORD and print it from the files menu. Neat!

Once on paper, I could encompass the code globally without having to memorise it all, analyse it and rationally define the problem. My solution was to allow the zombies to change direction anytime, (with a bias towards going straight on all the same), and this greatly simplified the coding, meaning great chunks of code could be DLINEd.

About three of those eleven hours were taken up by writing this article and reformatting the code to make it as logical as possible for readers, and generally tweaking the program to make it more playable. To this should be added the time and care taken by Bruno Coativy to beta-test everything and send me his comments on which I took action.

For the maze design, I used the same technique as I devised for the Quanta Snake_bas program. The main features of the coding are the use of two arrays : The first g() is the grid holding the fruit and obstacle fixed positions, the pointer (p) being calculated from them ; Then the query matrix

q() holds the positions of each zombie held serially. This makes collision detection easy, as the pacman coordinates are global variables which can therefore be compared to zombie ones serially as the latter are looked up. Please note that several zombies can occupy the same cell... in which case they may be temporarily invisible... so keep an eye on all your local ghouls before they disappear!

Pacman needs little introduction : Use the arrow keys to search out and gain points by eating fruit, whilst avoiding being killed by hitting or being hit by zombies. As in the original program, pacman opens and closes its mouth as it progresses. There is a winning strategy, but I shall leave it up to you to discover it...

The difficulty level simply defines the size of the grid and the number of zombies. Try modifying the number of zombies (n2), if you wish to make the game more or less difficult. At the end of the game your score is given as a percentage of all possible fruit eaten.

If you are looking for a programming project, try condensing the code!

Happy Munching

```
::
110 REMark Pacman_bas by S.Poole, v2sept2007.
120  REMark for QL Today. Beta-test by B.Coativy.
130 :
140 CLEAR: OPEN#1,con_16: WINDOW#1,512,256,0,0
150  PAPER 0: INK 7: CSIZE 3,1: CLS
160  :
170  pr 1,1,'Difficulty (6 to 11)?'
180  AT 1,24: INPUT i$: IF i$='': GO TO 150
190  IF i$>5 AND i$<12: n=i$: n1=n-1: ELSE GO TO 150
200  SELect n: =6,7:i=3: =8,9:i=2: =10,11:i=1
210  :
220 PAPER 2: CLS: DIM g(512,3),q(24,3)
230  o=1: pc=2: x=3: z=4: ct=0: PS=9: n2=INT(n/i): ESC=27
240  left=192: right=200: up=208: down=216: n3=n+1
250  :
260 REMark Draw the grid:
270  FOR f=1 TO n
280     FOR j=1 TO n: pr j,f,'.'
290  END FOR f
```

```
300 :
310 REMark Get random obstacles (x):
320 FOR f=1 TO n
330    ac=RND(2 TO n1): dn=RND(2 TO n1)
340    REMark get cell pointer p from coordinates:
350    p=(dn-1)*n+ac: IF g(p,3)=x: GO TO 330
360    :
370    REMark Eliminate obstacles on a diagonal,
380    REMark to create a random obstacle course:
390    p2=(dn-1+1)*n+ac+1: IF g(p2,3)=x: GO TO 330
400    p4=(dn-1-1)*n+ac+1: IF g(p4,3)=x: GO TO 330
410    p6=(dn-1-1)*n+ac-1: IF g(p6,3)=x: GO TO 330
420    p8=(dn-1+1)*n+ac-1: IF g(p8,3)=x: GO TO 330
430    :
440    INK 2: g(p,1)=ac: g(p,2)=dn: g(p,3)=x: pr dn,ac,'X'
450 END FOR f
460 :
470 REMark Get random fruit (o):
480 FOR f=1 TO n
490    ac=RND(1 TO n): dn=RND(1 TO n): p=(dn-1)*n+ac
500    IF g(p,3)=x OR g(p,3)=o: GO TO 490
510    INK 4: g(p,1)=ac: g(p,2)=dn: g(p,3)=o: pr dn,ac,'o'
520 END FOR f
530 :
540 REMark Get pacman; ('C' then 'O') with mx,my:
550 mx=RND(1 TO n): my=RND(1 TO n): gp
560 IF g(p,3)=x OR g(p,3)=o: GO TO 550
570 flash_pacman
580 :
590 REMark Get random zombies, held in q(ac,dn):
600 FOR f=1 TO n2
610    ac=RND(1 TO n): dn=RND(1 TO n): p=(dn-1)*n+ac
620    IF g(p,3)=o: GO TO 610
630    IF g(p,3)=x: GO TO 610
640    IF ac=mx AND dn=my: GO TO 610
650    q(f,1)=ac: q(f,2)=dn: q(f,3)=RND(1 TO 4)
660    INK 3: pr dn,ac,'Z'
670 END FOR f:
680 :
690 REMark Get ready to see first pacman position:
700 FOR f=1 TO 5: move_pacman: i$=INKEY$(#1,5)
710 :
```

```
720 REPeat game: move_pacman: move_all_zombies
730 ::
740 ::
750 DEFine PROCedure move_all_zombies
760  FOR f=1 TO n2
770     REMark Get actual zombie position:
780     zx=q(f,1): zy=q(f,2): zd=q(f,3): ozd=zd
790     INK 3: pr zy,zx,'Z'
800     IF mx=zx AND my=zy: INK 7: pr my,mx,'*': game_over
810     :
820     REMark Get old & new Zombie Directions (o zd):
830     zx=q(f,1): zy=q(f,2): zd=q(f,3): ozd=zd
840     :
850     REMark Keep going straight ahead more often:
860     IF RND(3): ELSE zd=RND(1 TO 4)
870     SELect zd
880       =1: zx=zx+1: IF zx>n: zx=n
890       =2: zx=zx-1: IF zx<1: zx=1
900       =3: zy=zy-1: IF zy<1: zy=1
910       =4: zy=zy+1: IF zy>n: zy=n
920     END SELect
930     :
940     REMark No entering obstacles (x):
950     p=(zy-1)*n+zx
960     IF g(p,3)=x: q(f,3)=ozd: GO TO 830
970     :
980     REMark New zombie position and direction:
990     q(f,1)=zx: q(f,2)=zy: q(f,3)=zd
1000     INK 3: pr zy,zx,'Z'
1010     IF mx=zx AND my=zy: INK 7: pr my,mx,'*': game_over
1020  END FOR f
1030 END DEFine
1040 :
1050 DEFine PROCedure pr(dwn,acr,m$)
1060  OVER -1: AT dwn,acr: PRINT m$: OVER 0
1070 END DEFine
1080 :
1090 DEFine PROCedure flash_pacman
1100  INK 6
1110  pr my,mx,'O': i1$=INKEY$(#1,PS)
1120  pr my,mx,'O': i2$=INKEY$(#1,PS)
1130  pr my,mx,'C': i3$=INKEY$(#1,PS)
```

```
1140  pr my,mx,'C': i4$=INKEY$(#1,PS)
1150 END DEFine
1160 :
1170 DEFine PROCedure gp
1180  p=(my-1)*n+mx: REMark Get cell pointer.
1190 END DEFine
1200 :
1210 DEFine PROCedure move_pacman
1220  REMark get all previous keystrokes:
1230  i$=i1$&i2$&i3$&i4$
1240  IF i$='': is=0: ELSE is=CODE(i$)
1250  SELect is
1260    REMark Move pacman with keystroke:
1270    REMark but step back off obstacles (x):
1280    REMark and collect any fruit:
1290    =ESC :  game_over
1300    =left:  mx=mx-1: IF mx<1: mx=1: GO TO 1420
1310         IF mx>0: gp: IF g(p,3)=x: mx=mx+1
1320         any_fruit
1330    =right: mx=mx+1: IF mx>n: mx=n: GO TO 1420
1340         IF mx<n3: gp: IF g(p,3)=x: mx=mx-1
1350         any_fruit
1360    =up   : my=my-1: IF my<1: my=1: GO TO 1420
1370         IF mx>0: gp: IF g(p,3)=x: my=my+1
1380         any_fruit
1390    =down : my=my+1: IF my>n: my=n: GO TO 1420
1400         IF my<n3: gp: IF g(p,3)=x: my=my-1
1410         any_fruit
1420  END SELect : flash_pacman
1430 END DEFine
1440 :
1450 DEFine PROCedure any_fruit
1460  gp: REMark Get Pacman cell pointer from coordinates.
1470 :
1480  REMark Check grid for fruit (o):
1490  IF g(p,3)=o THEN
1500    INK 7: AT my,mx: PRINT '.': BEEP 12345,6
1510    ct=ct+1: IF ct=n: pr my,mx,'C': game_over
1520    INK 0: AT 0,0: PRINT'fruit:'!ct: g(p,3)=0
1530  END IF
1540 END DEFine
1550 :
```

```
1560 DEFine PROCedure game_over
1570  sc=INT((ct*100)/n)
1580  AT 0,0: CLS 3: PRINT'Score:'!sc&'%'!
1590  BEEP 12345,67: FOR f=1 TO 5: i$=INKEY$(#1,100)
1600  AT 0,0: CLS 3: PRINT'Another? (y/n)'
1610  i$=INKEY$(#1,-1): IF i$=='n' THEN
1620   WINDOW 256,206,256,0: CLS : CSIZE 0,0: STOP
1630  END IF : RUN
1640 END DEFine
1650 ::
```

SUBGROUP MEETINGS

THE WEST MIDLANDS QL USER GROUP

This long-running group has moved back to its previous venue, the Queens Head pub in the City Centre. Meetings remain open to Quanta members and non-members alike. The Queens Head is in Steelhouse Lane, Central Birmingham, four minutes walk from Snow Hill main-line railway station and has ample street parking nearby.

Meetings are usually on the first and third Monday of each month (but not on Bank holidays unless the previous one was cancelled for that reason). After your first meeting you're expected to pay £1 each time towards the organisation and monthly newsletter costs - except once a year when the group pays all those who attend a pound instead (We provide food twice a year for those who attend the AGM and the group's birthday party) and at meetings we discuss all sorts of things, QL-related and otherwise, usually from about 8:20 pm. onwards till 10:30 or later. The group owns QL hardware, a disk library and subscribes to relevant magazines. People can join the mailing list for £3.50 per year, even if they can't attend regularly.

The contact number is Mike Bedford White's, on 0121 605 4438, anytime after 11 am.

Email: mikebwhite@blueyonder.co.uk

QUANTA DORSET SUBGROUP

Meetings are held, on the second Sunday of each month at the Merley Community Centre in Harrier Drive, Merley, just south of Wimborne Minster. Time: 2.00 pm. to 5.00 pm. All are welcome.

John Meadows Tel: 01202 576189, or John Mason, 01425 275894.

LONDON QL AND QUANTA GROUP

Meetings are held in the School Room, which is the basement of the Borough Welsh Congregational Chapel, 90, Southwark Bridge Road, London SE1. This is almost opposite the junction with Marshalsea Road, at the other end of which, 5 minutes walk away, is the Borough Underground Station. Free parking is easily available in Southwark Bridge Road for road users, Cyclists are welcome.

Members currently each pay a subscription of £30 per year towards the cost of the hire of the hall and a small additional charge is made for tea/coffee - biscuits are then provided free.

Please bring your QL equipment if possible, all types welcome, e.g., PC portable running emulators. The Group has some systems stored at the venue for its use. In addition, there are lots of donated second user equipment, books, magazines, etc, available for purchase.

Time: 2.00 pm. to 6.00 pm., on the second Sunday of the month.

No meetings are held in either December - winter break, or August summer break. Giving 10 meetings a year.

Malcolm Cadman: Tel: 020 8691 5780

 email: QL@mcad.demon.co.uk

NEMQLUG - THE NORTH EAST MANCHESTER QL USER GROUP

Meetings are held at 181, Urmston Lane, Stretford, Manchester. M32 9EH (Near Junction 7 of M60 Motorway - Was Junction 7 M63 Motorway). Our informal meetings start at 7 p.m. and finish at 11 pm. All welcome.

Meets on the last Thursday of each month (except December).

John/Sarah Gilpin 0161-865 2872 (thegilpins@btopenworld.com)

SCOTTISH QL USERS GROUP

SQLUG meets at George Gwilt's home every second Sunday in the month. Please contact George Gwilt before coming to get the location.

Geogwilt@aol.com

SOLENT SUBGROUP

Meets at Botley Market Hall, all welcome. Park at the back and use side entrance.

1st Saturday of the month from 2.00 pm to 6.00 pm.

Graham Evans, Tel: 023 8040 3350.

SURREY QUANTA SUBGROUP (SQSG)

The group is currently trying other venues in the Leatherhead - Epsom area. If you plan to attend but do not get our emails, please phone or email Ken Bain for the latest location.

Meetings are 8.00 to 10.00 pm. On the last Wednesday of each month except December.

Ken Bain - 01932 - 347 432 (to midnight), kenb@bcs.org.uk

SUSSEX QL USER GROUP

Currently without a meeting place, anyone interested should contact Keith Mitchell or Roy Wood.

Roy Wood, 01273 430501 or Keith Mitchell, 01903 742263.